Amendments to the Claims

The current listing of the claims replaces all previous amendment and listings of the claims.

1. (Currently Amended) A method for reinforcing a structure~~, characterized by~~ comprising:

disposing a high-ductility material having an initial elastic modulus lower than an elastic modulus of concrete on an outer circumferential surface of a member of the structure so as to restrain expansion of apparent volume accompanying rupture of the member, to thereby control rupture of the member and support a portion of a load of the structure after rupture of the member.

2. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 1, wherein the high-ductility material ~~is~~ comprises a ~~fibrous~~ fiber origin or rubber origin sheet material.

3. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 1, wherein the high-ductility material ~~is~~ comprises a ~~fibrous~~ fiber origin or rubber origin tape-like sheet material ~~and~~ is wound spirally on the member while overlapping at overlap portions.

4. (Currently Amended) A method for reinforcing a structure ~~as described in Claim 3, wherein the high-ductility material is wound spirally according to the steps of~~ comprising:

disposing a high-ductility material on an outer circumferential surface of a member of the structure to restrain expansion of apparent volume accompanying rupture of the member, to thereby control rupture of the member;

winding the high-ductility material by a single turn at a winding start end of the member;

winding the high-ductility material spirally while ~~the~~ a number of overlap turns is sequentially increased until a predetermined maximum number of overlap turns is reached;

winding the high-ductility material spirally while the maximum number of overlap turns is maintained along a predetermined length of the member; and

winding the high-ductility material spirally while the number of overlap turns is sequentially decreased such that the high-ductility material is wound by a single turn at a winding termination end of the member.

5. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 1, wherein an adhesive layer is formed on at least one side of the high-ductility material, and the high-ductility material is affixed to the member via the adhesive layer.

6. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 3, wherein the high-ductility material is wound on the member such that the overlap portions are bonded together and/or such that the high-ductility material is bonded to a surface of the member at at least a single zonal region extending along a length direction of the member.

7. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 1, wherein the high-ductility material ~~is~~ comprises a ~~fibrous~~ fiber origin or rubber origin sheet material and is rolled tightly on the member by a plurality of turns to thereby be rolled in layers such that at least a rolling start end portion of the high-ductility material is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the high-ductility material is bonded to a corresponding portion of an underlying layer of the high-ductility material.

8. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 7, wherein the high-ductility material is rolled on the member such that

intermediate layers of the high-ductility material are ~~boded~~ bonded together at at least a single zonal region extending along a length direction of the member.

9. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 1, wherein the high-ductility material ~~is~~ comprises a ~~fibrous~~ fiber origin or rubber origin tape-like sheet material and is wound spirally while overlapping ~~at~~ an overlap portion and is combined with being ~~rolling~~ rolled tightly on the member by a plurality of turns to thereby be rolled in layers such that at least a rolling start end portion of the high-ductility material is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the high-ductility material is bonded to a corresponding portion of an underlying layer of the high-ductility material.

10. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 9, wherein the high-ductility material ~~is~~ comprises a ~~fibrous~~ fiber origin or rubber origin tape-like sheet material and is spirally wound on the member along an overall length of the member while overlapping at overlap portions before or after the high-ductility material is rolled on the member at upper and lower end portions of the member by being rolled tightly on the member by a plurality of turns to thereby be rolled in layers such that at least a rolling start end portion of the high-ductility material is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the high-ductility material is bonded to a corresponding portion of an underlying layer of the high-ductility material.

11. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 1, wherein the high-ductility material is formed through application of a rubber or resin viscous-material to the member.

12. (Currently Amended) ~~A~~ The method for reinforcing a structure ~~as described in~~ according to Claim 1, wherein the high-ductility material is disposed such that a cavity or a weak layer is interposed between the high-ductility material and the member.

13. (Currently Amended) A configuration for reinforcing a structure~~, characterized by disposing~~ comprising:

a high-ductility material having an initial elastic modulus lower than an elastic modulus of concrete configured to be disposed on an outer circumferential surface of a member of the structure so as to elastically restrain expansion of apparent volume accompanying rupture of the member, to thereby control rupture of the member and support a portion of a load of the structure after rupture of the member.

14. (Currently Amended) ~~A~~ The configuration for reinforcing a structure ~~as described in~~ according to Claim 13, wherein the high-ductility material ~~is~~ comprises a ~~fibrous~~ fiber origin or rubber origin sheet material.

15. (Currently Amended) ~~A~~ The configuration for reinforcing a structure ~~as described in~~ according to Claim 13, wherein the high-ductility material ~~is~~ comprises a ~~fibrous~~ fiber origin or rubber origin tape-like sheet material ~~and~~ configured to be wound spirally on an outer surface of the member in a fixed and overlapping condition.

16. (Currently Amended) A configuration for reinforcing a structure ~~as described in Claim 15,~~ comprising:

a high-ductility material configured to be disposed on an outer circumferential surface of a member of the structure to elastically restrain expansion of apparent volume accompanying rupture of the member, to thereby control rupture of the member,

wherein the high-ductility material comprises a fiber origin or rubber origin tape-like sheet material and is configured to be wound spirally on an outer surface of the member in a fixed and overlapping condition, and

wherein the high-ductility material is configured to be wound ~~spirally according to the steps of: winding the high-ductility material~~ by a single turn at a winding start end of the member~~; winding the high-ductility material,~~ spirally while ~~the~~ a number of overlap turns is sequentially increased until a predetermined maximum number of overlap turns is reached~~; winding the high-ductility material,~~ spirally while the maximum number of overlap turns is maintained along a predetermined length of the member[[;]] and ~~winding the high-ductility material~~ spirally while the number of overlap turns is sequentially decreased such that the high-ductility material is wound by a single turn at a winding termination end of the member.

17. (Currently Amended) ~~A~~ The configuration for reinforcing a structure ~~as described in~~ according to Claim 12, wherein an adhesive layer is formed on at least one side of the high-ductility material, and the high-ductility material is configured to be affixed to the member via the adhesive layer.

18. (Currently Amended) ~~A~~ The configuration for reinforcing a structure ~~as described in~~ according to Claim 15, wherein the high-ductility material is configured to be wound on the member such that the overlap portions are bonded together and/or such that the high-ductility material is bonded to a surface of the member at at least a single zonal region extending along a length direction of the member.

19. (Currently Amended) ~~A~~ The configuration for reinforcing a structure ~~as described in~~ according to Claim 13, wherein the high-ductility material ~~is~~ comprises a ~~fibrous~~ fiber origin or rubber origin sheet material and is configured to be rolled tightly on the member in a plurality of layers such that at least a rolling start end portion of the high-ductility material is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the high-ductility material is bonded to a corresponding portion of an underlying layer of the high-ductility material.

20. (Currently Amended) ~~A~~ The configuration for reinforcing a structure ~~as described in~~ according to Claim 13, wherein the high-ductility material ~~is~~ comprises a ~~fibrous~~ fiber origin or rubber origin tape-like sheet material and is configured to be disposed such that it is wound spirally on an outer surface of the member in a fixed and overlapping condition and is combined with being rolled tightly on the member in a plurality of layers such that at least a rolling start end portion of the high-ductility material is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the high-ductility material is bonded to a corresponding portion of an underlying layer of the high-ductility material.

21. (Currently Amended) ~~A~~ The configuration for reinforcing a structure ~~as described in~~ according to Claim 20, wherein the high-ductility material is configured to be spirally wound on the member along an overall length of the member such that it is wound spirally on an outer surface of the member in a fixed and overlapping condition before or after the high-ductility material is rolled on the member at upper and lower end portions of the member by being rolled tightly on the member in a plurality of layers such that at least a rolling start end portion of the high-ductility material is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the high-ductility material is bonded to a corresponding portion of an underlying layer of the high-ductility material.

22. (Currently Amended) ~~A~~ The configuration for reinforcing a structure ~~as described in~~ according to Claim 13, wherein the high-ductility material ~~is~~ comprises a covering material configured to be formed in a layered condition through application of a rubber or resin viscous-material to the member.

23. (Currently Amended) ~~A~~ The configuration for reinforcing a structure ~~as described in~~ according to Claim 13, wherein the high-ductility material is configured to be

disposed such that a cavity or a weak layer is interposed between the high-ductility material and the member.

24. (Currently Amended) A cored roll of high-ductility material~~, characterized by~~ comprising:

a core having a predetermined length an outside diameter; and

~~a~~ the high-ductility material having a predetermined length and rolled on the core, the high-ductility material having an initial elastic modulus lower than an elastic modulus of concrete and configured to be disposed on an outer circumferential surface of a member of a structure to elastically restrain expansion of apparent volume accompanying rupture of a member of the structure, to thereby control rupture of the member and support a portion of a load of the structure after rupture of the member; and

~~characterized in that~~ a plurality of parting lines ~~are~~ drawn on one side of the high-ductility material along a length direction of the high-ductility material, the parting lines ~~enabling~~ configured to enable equal division of a width of the high-ductility material at any one of two or more different pitches.

25. (Currently Amended) ~~A~~ The cored roll of high-ductility material ~~as described in~~ according to Claim 24, wherein the parting lines are ~~drawn such that the parting lines can~~ configured to be visually or tactilely discriminated from one another.

26. (Currently Amended) A method for reinforcing a structure~~, characterized by~~ comprising:

fixedly attaching a high-ductility covering material ~~formed of a raw material~~ having an initial elastic modulus lower than ~~that of a tie hoop~~ an elastic modulus of concrete to an outer circumferential surface of ~~an existing column supporting~~ a member of the structure, to thereby ~~cause the high-ductility covering material to bear a load imposed on the column after the column is deformed~~ support a load of the member after deformation of the member.

27. (Currently Amended) A method for reinforcing a structure ~~as described in Claim 26~~ comprising:

fixedly attaching a high-ductility covering material formed of a raw material having an elastic modulus lower than that of a tie hoop to an outer circumferential surface of an existing column supporting the structure, to thereby cause the high-ductility covering material to bear a load imposed on the column after the column is deformed,

wherein the high-ductility covering material comprises a plurality of surrounding cores disposed around the column ~~in such a manner as~~ to be arranged at predetermined intervals along a vertical direction, and a ~~fibrous~~ fiber origin or rubber origin sheet material connecting the adjacent surrounding cores along the vertical direction, to thereby assume a form of an integral bellows-like reinforcement.

28. (Currently Amended) A method for reinforcing a structure~~, characterized in that~~ comprising:

disposing a high-ductility covering material ~~formed of a raw material~~ having an initial elastic modulus lower than ~~that of a tie hoop is disposed~~ an elastic modulus of concrete inside a facing surrounding wall material ~~disposed~~ around ~~an existing column supporting~~ a member of the structure with a cavity interposed between the facing surrounding wall material and the ~~column~~ member, to thereby ~~cause the high-ductility covering material to bear a load imposed on the column after the column is deformed~~ support a load of the member after deformation of the member.

29. (Currently Amended) A method for reinforcing a structure ~~as described in Claim 28~~ comprising:

disposing a high-ductility covering material formed of a raw material having an elastic modulus lower than that of a tie hoop inside a facing surrounding wall material disposed around an existing column supporting the structure with a cavity interposed between

the facing surrounding wall material and the column, to thereby cause the high-ductility covering material to bear a load imposed on the column after the column is deformed,

wherein the high-ductility covering material comprises a plurality of surrounding cores disposed around the column with the cavity interposed ~~therebetween in such a manner as~~ thereamong to be arranged at predetermined intervals along a vertical direction, and a ~~fibrous~~ fiber origin or rubber origin sheet material connecting the adjacent surrounding cores along the vertical direction, to thereby assume a form of an integral bellows-like reinforcement.

30. (Currently Amended) A configuration for reinforcing a structure~~, characterized by fixedly attaching~~ comprising:

a high-ductility covering material ~~formed of a raw material~~ having an initial elastic modulus lower than ~~that of a tie hoop~~ an elastic modulus of concrete configured to be fixedly attached to an outer circumferential surface of a ~~column supporting~~ member of the structure to restrain expansion of apparent volume after rupture of the member, to thereby control rupture of the member and support a portion of a load of the structure after rupture of the member.

31. (Currently Amended) A configuration for reinforcing a structure ~~as described in Claim 30~~ comprising:

high-ductility covering material formed of a raw material having an elastic modulus lower than that of a tie hoop configured to be fixedly attached to an outer circumferential surface of a member supporting the structure,

wherein the high-ductility covering material comprises a plurality of surrounding cores configured to be disposed around the column ~~in such a manner as~~ to be arranged at predetermined intervals along a vertical direction, and a ~~fibrous~~ fiber origin or rubber origin

sheet material connecting the adjacent surrounding cores along the vertical direction, to thereby assume a form of an integral bellows-like reinforcement.

32. (Currently Amended) A configuration for reinforcing a structure~~, characterized in that~~ comprising:

a high-ductility covering material ~~formed of a raw material~~ having an initial elastic modulus lower than ~~that of a tie hoop is~~ an elastic modulus of concrete configured to be disposed inside a facing surrounding frame disposed around a ~~column supporting~~ member of the structure with a cavity interposed between the facing surrounding frame and the ~~column~~ member, to thereby support a load of the member after deformation of the member.

33. (Currently Amended) A configuration for reinforcing a structure ~~as described in Claim 32~~ comprising:

a high-ductility covering material formed of a raw material having an elastic modulus lower than that of a tie hoop configured to be disposed inside a facing surrounding frame disposed around a member supporting the structure with a cavity interposed between the facing surrounding frame and the column,

wherein the high-ductility covering material comprises a plurality of surrounding cores configured to be disposed around the column with the cavity interposed ~~therebetween in such a manner as~~ thereamong to be arranged at predetermined intervals along a vertical direction, and a ~~fibrous~~ fiber origin or rubber origin sheet material connecting the adjacent surrounding cores along the vertical direction, to thereby assume a form of an integral bellows-like reinforcement.

34. (Currently Amended) A high-ductility material~~, characterized by being~~ comprising:

a high-ductility covering material having an initial elastic modulus lower than an elastic modulus of concrete configured to be disposed on an outer circumferential surface of a

member of a structure to thereby support a load of the member after deformation of the member; and

~~having~~ an adhesive layer formed on at least one side ~~thereof~~ of the high-ductility covering material~~; and being~~, the high-ductility material configured to be affixed to the member via the adhesive layer.

35. (Currently Amended) A high-ductility material~~, characterized by being~~ comprising:

a high-ductility covering material having an initial elastic modulus lower than an elastic modulus of concrete configured to be disposed on an outer circumferential surface of a member of a structure ~~and characterized in that the high-ductility material is~~ to thereby support a load of the member after deformation of the member,

wherein the high-ductility material is configured to be wound on the member such that overlap portions are bonded together and/or such that the high-ductility material is bonded to a surface of the member at at least a single zonal region extending along a length direction of the member.

36. (Currently Amended) A high-ductility covering material~~, characterized by~~ comprising:

a plurality of surrounding cores configured to be disposed around ~~the column in such a manner as~~ a member to be arranged at predetermined intervals along a vertical direction[[,]]; and

a ~~fibrous~~ fiber origin or rubber origin sheet material connecting the adjacent surrounding cores along the vertical direction, to thereby assume a form of an integral bellows-like reinforcement.

37. (Currently Amended) A high-ductility covering material~~, characterized by~~ comprising:

a plurality of surrounding cores configured to be disposed around ~~the column~~ a member with a cavity interposed ~~therebetween in such a manner as~~ thereamong to be arranged at predetermined intervals along a vertical direction[[,]];

and a ~~fibrous~~ fiber origin or rubber origin sheet material connecting the adjacent surrounding cores along the vertical direction, to thereby assume a form of an integral bellows-like reinforcement.

38. (New) A method for reinforcing a structure comprising:

disposing a high-ductility material having an initial elastic modulus lower than an elastic modulus of concrete on an outer circumferential surface of a member of the structure with a weak layer or a cavity interposed between the material and the member to restrain expansion of apparent volume accompanying rupture of the member, to thereby control rupture of the member and support a portion of the load of the structure after rupture of the member.

39. (New) A method for reinforcing a structure comprising:

disposing a high-ductility material having an initial elastic modulus lower than an elastic modulus of concrete on a portion of an outer circumferential surface of a member of the structure to restrain expansion of apparent volume accompanying rupture of the member, to thereby control rupture of the member and support a portion of the load of the structure after rupture of the member.

40. (New) A method for reinforcing a structure comprising:

fixedly attaching a high-ductility material having an initial elastic modulus lower than an elastic modulus of concrete to an outer circumferential surface of a member of the structure to restrain expansion of apparent volume accompanying rupture of the member, to thereby control rupture of the member and support a portion of the load of the structure after rupture of the member; and

determining an amount of the material to attach based on a load of the member and an amount of a deformation in a peripheral direction allowed by the member.